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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,956	09/05/2003	Perry Philp	213-043/HRH	7920

1059 7590 12/26/2006

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EXAMINER	
MATZEK, MATTHEW D	
ART UNIT	PAPER NUMBER
1771	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/26/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/654,956	PHILP ET AL.	
	Examiner	Art Unit	
	Matthew D. Matzek	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-67* is/are pending in the application.

4a) Of the above claim(s) *1-12 and 35-45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-34 and 46-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

2. The declaration filed on 12/1/2006 under 37 CFR 1.131 is sufficient to overcome the Gray et al. reference (US 2004/0185734 A1), which has a US filing date of 3/21/2003. Therefore all of the rejections made in view of Gray et al. set forth in the Office Action dated 10/6/2006 have been withdrawn.

3. The replacement drawings and amendments to the Specification have been accepted and entered into the Record.

4. Claims 1-67 are currently pending, but claims 1-12 and 35-45 have been withdrawn from prosecution. Claims 13-34 and 46-67 are currently active.

5. The rejection of claims 46-67 under 112 2nd paragraph has been withdrawn due to explanation by applicant as to what was intended by the use of the term "conduit". The rejection of claims 46-67, in view of Sasaki et al., has been withdrawn due to explanation by applicant as to what was intended by the use of the term "conduit".

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 13-24 and 26-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US 5,338,593) in view of Romanin (US 3,360,410).

a. Sasaki et al. teach a multi-axial nonwoven fabric which is in turn adhesively bonded to a warp material (Abstract). The warp material may be bonded on both sides of

the fabric material (col. 3, lines 45-53). Figures 1-3C provide for the instantly claimed warp and weft fiber orientations with the warp fibers extending in the horizontal direction. Claims 50, 51, 62 and 63 are anticipated as Figure 3C shows the weft yarns extending at an angle of substantially 45°. Further support for this specific angle value is provided by the Abstract, which states that the yarns are oriented in right triangles. Sasaki et al. are silent as to the use of spreader yarns.

b. Romanin teaches a method of making a nonwoven twill web, which comprises two straight parallel essentially inextensible and stress resisting side yarns **10** and **11** defining the parallel side edges of the network to be produced. Around the side yarns are a plurality of web forming yarns that continuously encircle both side yarns at locations essentially adjacent to the plane defined by said side yarns (col. 1, lines 51-68). The various yarns of the invention may be bonded to one another via suitable binding agents (col. 2, lines 1-5).

c. Since Sasaki et al. and Romanin are from the same field of endeavor (i.e. structural fabrics), the purpose disclosed by Romanin would have been recognized in the pertinent art of Sasaki et al.

d. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Sasaki et al. with spreader yarns with the motivation of creating a stress resistant article as disclosed by Romanin. Claim 34 is rejected as it would have been obvious at the time the invention was made to a person skill in the art to have laterally offset the first substrate from the second substrate of Sasaki et al. The skilled artisan would have been motivated by the desire to selectively

impart reinforcement to one substrate over a second or use the excess fabric for bonding/attachment to another substrate.

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al. (US 5,338,593) in view of Romanin (US 3,360,410) as applied to claim 24 above, and further in view of Waters (US 6,158,447). The disclosures of Sasaki et al. and Romanin are silent as to the use of a reinforcing wire.

a. Waters teaches a flexible duct comprising a reinforcing scrim **16** and a wire resilient helix (reinforcing wire) **14** (Figure 3). The scrim provides the duct with high tensile strength and excellent tear resistance in all directions. The wire and scrim are sandwiched between the inner and outer walls of the flexible duct (Abstract). The resilient helix provides the duct with rigidity, while allowing it to flex about several points (col. 1, lines 25-30). The tape used to form the outer wall **12** is also simultaneously fed onto the mandrel to overlap itself and to be offset (col. 2, lines 65-67).

b. Since Waters and Sasaki et al. are from the same field of endeavor (i.e. fabric-reinforced articles), the purpose disclosed by Waters would have been recognized in the pertinent art of Sasaki et al.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the reinforcing fabric of Sasaki et al. with the reinforcing wire of Waters. The skilled artisan would have been motivated by the desire to provide the reinforcing fabric with rigidity, while allowing it to flex about several points (col. 1, lines 25-30, Waters).

8. Claims 46-57 and 59-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atwell et al. (US 3,654,967) in view of Sasaki et al. (US 5,338,593) and Romanin (US 3,360,410).

a. Atwell et al. teach the use of multi-filamentary textiles to reinforce pressure hoses (Abstract). The reinforcing textiles are helically or spirally wound (col. 1, lines 45-48). It has been unexpectedly found that it is possible to use helically wrapped textile reinforcement, but also to find that use of such helically wrapped reinforcement results in a hose which is more flexible and has a greater ability to withstand repetitive impulse loads than hose made with braided reinforcement. As a consequence, it is possible, utilizing the teachings of the present invention, to use somewhat less material and still get an acceptable product (col. 3, lines 30-44). Atwell et al. teach that is advantageous to use reinforcing textiles in the manufacture of pressure hoses but is silent as to the nature of their structure.

b. Sasaki et al. teach a multi-axial nonwoven fabric which is in turn adhesively bonded to a warp material (Abstract). The warp material may be bonded on both sides of the fabric material (col. 3, lines 45-53). Figures 1-3C provide for the instantly claimed warp and weft fiber orientations with the warp fibers extending in the horizontal direction. Claims 50, 51, 62 and 63 are anticipated as Figure 3C shows the weft yarns extending at an angle of substantially 45°. Further support for this specific angle value is provided by the Abstract, which states that the yarns are oriented in right triangles. Sasaki et al. are silent as to the use of spreader yarns.

c. Romanin teaches a method of making a nonwoven twill web, which comprises two straight parallel essentially inextensible and stress resisting side yarns **10** and **11** defining the parallel side edges of the network to be produced. Around the side yarns are a plurality of web forming yarns that continuously encircle both side yarns at locations essentially adjacent to the plane defined by said side yarns (col. 1, lines 51-68). The various yarns of the invention may be bonded to one another via suitable binding agents (col. 2, lines 1-5).

d. Since Atwell, Sasaki et al. and Romanin are from the same field of endeavor (i.e. reinforcement fabrics), the purpose disclosed by Sasaki et al. and Romanin would have been recognized in the pertinent art of Atwell et al.

e. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Atwell with reinforcing textiles of Sasaki et al. and Romanin with the motivation of creating a pressure hose with a good balance of structural strength and dimensional stability (col. 1, lines 55-60, Sasaki et al.). Claim 67 is rejected as it would have been obvious at the time the invention was made to a person skill in the art to have laterally offset the first substrate from the second substrate of Sasaki et al. The skilled artisan would have been motivated by the desire to selectively impart reinforcement to one substrate over a second or use the excess fabric for bonding/attachment to another substrate.

9. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atwell et al. (US 3,654,967) in view of Sasaki et al. (US 5,338,593) and Romanin (US 3,360,410) as applied to

claim 57 above, and further in view of Waters (US 6,158,447). The disclosures of Atwell et al., Sasaki et al. and Romanin are silent as to the use of a reinforcing wire.

a. Waters teaches a flexible duct comprising a reinforcing scrim **16** and a wire resilient helix (reinforcing wire) **14** (Figure 3). The scrim provides the duct with high tensile strength and excellent tear resistance in all directions. The wire and scrim are sandwiched between the inner and outer walls of the flexible duct (Abstract). The resilient helix provides the duct with rigidity, while allowing it to flex about several points (col. 1, lines 25-30). The tape used to form the outer wall **12** is also simultaneously fed onto the mandrel to overlap itself and to be offset (col. 2, lines 65-67).

b. Since Waters and Atwell et al. are from the same field of endeavor (i.e. fabric-reinforced articles), the purpose disclosed by Waters would have been recognized in the pertinent art of Atwell et al.

c. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the reinforcing fabric of Atwell et al. with the reinforcing wire of Waters. The skilled artisan would have been motivated by the desire to provide the reinforcing fabric with rigidity, while allowing it to flex about several points (col. 1, lines 25-30, Waters).

Response to Arguments

10. Applicant's arguments with respect to claims 13-34 and 46-67 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mdm MDM

Norca L. Torres-Velazquez
Primary Examiner
Art Unit 1771

12/19/06